



2003 WILDLIFE WATER DEVELOPMENT TEAM IMPLEMENTATION PLAN

The 2003 Water Development Team Report took a comprehensive look at all aspects of the water development program, clearly identifying current issues and challenges, and developed specific recommendations that have been assimilated into this implementation plan. In addition to presenting these recommendations in a tiered, prioritized approach, it proposes process owners, target dates, and performance measures.

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PREFACE

THE CHALLENGE: Wildlife waters are some of the more extensive assets the Department oversees in achieving its wildlife management objectives. At today's construction costs, the real property value of this resource could conservatively be estimated at \$15-\$20 million dollars. Moreover, the Department is at a critical juncture with respect to the long-term viability of these assets. A considerable number of these water developments do not function adequately and require regular water hauling. Water hauling requires a substantial commitment of Department resources, consuming approximately 15-20% of Habitat Development and Maintenance crew time, and a corresponding proportion (\$72,500 to \$96,500) of the FW20D (PR) annual budget. Crew time, equipment, and other resources could be better used to repair catchments in disrepair or build new units if hauling requirements were reduced. In extreme drought years, such as 2002, Department resources alone have been inadequate to meet water-hauling needs, as well as perform necessary maintenance. The demand for hauled water will likely remain high, and most likely increase, if meteorologist's predictions for prolonged drought across the Southwest prove correct. To further complicate this issue, over 250 water developments are estimated to be beyond their expected life span, with one or more critical component needing replacement or prone to failure.

THE ISSUES:

1. There is a lack of clearly articulated objectives for the water development program pertaining to: biological vision, construction technology, quality control, information management, priority-based deployment of resources (including volunteers), and long-term maintenance goals.
2. The lack of clear objectives has created misunderstanding among internal and external customers and stakeholders.
3. Roles and responsibilities among Department Branches, Regions, external customers, and stakeholders, as they relate to the water development program, are not well defined.
4. The Department has experienced personnel and an extensive history in the biological evaluation, design, construction, and maintenance of wildlife water developments. Conservation organizations also collectively provide a significant amount of water development experience. Together, these "human" assets represent a valuable suite of knowledge, skills, labor, and equipment by which clearly defined objectives can be realized.
5. The Department has had the opportunity to cooperate with organizations and individuals that have provided hundreds of thousands of dollars, and volunteered countless hours of labor, toward building and maintaining wildlife water developments. These individuals may be willing to contribute even more.
6. A comprehensive plan to resolve current wildlife waters maintenance issues within a specified period has not been developed.

7. Adequately addressing the maintenance needs of existing wildlife water developments may require a substantial shift in the prioritization and deployment of Department and volunteer resources (financial and human).

THE APPROACH: To prevent adverse impacts to wildlife populations that depend upon water catchments, the Department and its cooperators must adopt a new, proactive management strategy to achieve objectives that are more aggressive. The timely redevelopment of aging and failure prone catchments will be costly, likely requiring the redirection of Department resources. In essence, it will not be easy. It is important to realize that the current state of the water development program, and its infrastructure, was created over decades. This is a challenge that cannot be resolved overnight. To address these issues and others identified in the report, the following is a general synopsis of the Team's recommendations:

1. Adopt specific Department roles and responsibilities as outlined in the report, to improve efficiency and eliminate unnecessary conflict.
2. Accurately identify and characterize failure-prone, high maintenance and priority water developments (preliminarily identified in the report). Then, develop an aggressive plan to improve their status in a specified timeframe (see Section III).
3. Through a clearly defined prioritization process collaborated by Department personnel and enlisting external stakeholder participation, create a statewide "Water Development Annual Work Plan". This Plan will determine the deployment of Department resources for water catchments and identify opportunities for volunteer support.
4. Water development resources should be focused on the redevelopment of existing priority catchments. Exceptions would be made for new water developments needed for the management of T & E species, re-establishment of species within their historic range, to prevent extirpation of vulnerable populations, or to take advantage of opportunities which may be compromised by anticipated changes in land use status. Doing so will result in the deferral of most new water catchments, until all priority catchments are repaired or redeveloped.
5. Further develop and maintain a comprehensive database of Department wildlife water developments and take the lead in pursuing a statewide interagency database (currently underway) for all wildlife water developments including springs and tanks.
6. Achieve consensus within the Department on the biological vision, value, and management of wildlife water developments. Consistently involve and communicate Department commitment to external stakeholders and land management agencies.
7. Efficiently utilize volunteer labor and financial resources in monitoring, inspecting, and performing maintenance and construction activities on wildlife waters. One option to accomplish this objective would be the establishment of a volunteer coordinator.

THE OUTCOME: The recommendations proposed in this implementation plan will move the Department expediently in the right direction and ultimately achieve our desired outcome of

long-term sustainability. As such, the following measures will clearly evaluate the results of these recommendations.

1. A financially sustainable water development program based on the following defensible, data driven criteria: sound biological assessments, appropriate design, construction and material applications, and efficient resource allocation.
2. All construction and maintenance activities are based on statewide priorities, established through a clearly defined annual planning process (the Water Development Annual Work Plan).
3. Resources, regardless of the source, will be focused on redevelopment projects that meet the “Criteria for Success” established in the Team Report, until the major maintenance and water hauling demand can be diminished to a sustainable level.

Tier 1 – Implementation Plan

Roles/Responsibilities/Annual Work Plan Process/Biological Vision

Department Roles and Responsibilities

It is integral to the future of the water development program that work unit roles and responsibilities be well understood and adhered to. Currently, roles and responsibilities for work units in water development-related activities are not well defined. Clarification of roles will increase efficiency, minimize unnecessary conflict, and prevent duplication of efforts. Accordingly, the Team Report outlines work unit responsibilities (also included herein) necessary to achieve a sustainable water development program. In this context, sustainability is defined as a state in which none of the Department’s 800+ water developments have a remaining life expectancy of less than ten years. It is the intent of the Report’s recommendations to collectively support an aggressive increase in the number of wildlife waters redeveloped annually, with the goal of achieving a “sustainable” level within five years. This will require the redevelopment of approximately 250 water developments over the next five years.

Annual Work Plan

Secondly, addressing short and long-term maintenance needs relies on the Team’s recommendation to develop and implement a statewide Annual Work Plan process, prioritizing all water related projects for the upcoming fiscal year and identifying potential projects for following years. Each Region would prepare its respective section of the plan, with technical support from Development Branch and other work units as needed. This Plan will determine the annual deployment of Department resources and identify opportunities for volunteer support. The planning process must include:

- A critical path flow chart that comprehensively describes project delivery process from conception to construction
- A prioritized list of catchments for redevelopment, founded primarily on information presented in the Team Report (See Appendix I.1 of Team Report) and from on-site evaluations using the proposed scoring process. (See Appendix I.2).

- A brief description of each project, with approximate costs, design type, required environmental compliance documents, opportunities for volunteer participation, and schedule for completion. The plan must be flexible to allow for modifications as needed.
- A review of the previous year's objectives and accomplishments.

The target deadlines for the work plan must be congruent with the Special Tag Fund project submittal process. A recommended schedule follows:

September

Regions submit a prioritized list of candidate projects based on criteria established through a common scoring mechanism (See Appendix I.2 of Team Report).

October

Development Branch, Game Branch, and Regional representatives meet to determine priorities, identify volunteer needs/opportunities, assess previous year performance, and develop preliminary work schedule.

December

Annual work plan completed and distributed to internal and external customers (conservation organizations, HPC members, etc.) for use in developing funding proposals, and communicating volunteer needs/opportunities.

March-April

Evaluate Special Tag Fund proposals with regard to work plan priorities and Criteria for Success.

May

Finalize work plan and schedule based on proposal success. Host an annual volunteer/stakeholder summit to discuss annual work plan and other volunteer needs/opportunities.

Biological Vision

Concurrently, precedence is placed on the development of the vision document, which will link the objectives for the water development program pertaining to: construction technology, quality control, information management, priority-based deployment of resources and long-term maintenance goals with the biological role that supplemental, free standing water sources occupy in the management of Arizona's wildlife resource. Communicated effectively, this effort will further strengthen the coalition among wildlife management professionals and their conservation partners that will be critical in achieving sustainability of the Department's wildlife water developments.

Ancillary Tier 1 priority tasks include:

- Field verification of priority water developments to be redeveloped, which are preliminarily identified in the Team Report.
- Ongoing development of a comprehensive statewide interagency wildlife waters database.

- Maximization of volunteer resources in monitoring, inspecting, and maintaining wildlife waters.
- Development of a Design Standards Manual

Water Development Team – 2002/2003



Tier 1 Priority Tasks - Implementation Matrix

Team Milestones

Team Report/Recommendations – Director Approval

June 23, 2003

Report Distribution to Internal and External Stakeholders

August 30, 2003

Tier 1 Task Matrix

Activity	Process Owner(s)*	Target Date	Performance Measure
Adopt specific Department roles and responsibilities as they relate to wildlife waters. <i>See Below.</i>	Development Branch Chief, Game, Nongame, Research Branch Chiefs and Regional Supervisors	August 1, 2003	Successful development of Annual Work Plan and Successful Implementation of Annual Work Plan
Develop a Biological Vision document that clearly articulates the water development program's mission.	Research, Development, Game, Nongame, Branch Chiefs	Nov 1, 2003	Vision Document clearly communicated to internal and external stakeholders.
Develop a detailed plan and identify funding to achieve a sustainable maintenance level within 5 years.	Development Branch Chief	January 1, 2004	Number of priority catchments redeveloped per year.
Develop and implement a process to produce the Annual Work Plan,	Development, Game, Nongame, Research Branch Chiefs and Regional Supervisors	Aug. 1, 2003 ¹	Annual Work Plan, adopted internally and with support from external stakeholders.
Field verify failure prone, priority water developments identified in report	Development Branch Chief Regional Supervisors	January 1, 2004	Updated database.
Develop a statewide interagency database of wildlife waters.	Development Branch Chief, Habitat Branch Chief	January 1, 2004 ² (Ongoing)	Shared database and GIS capabilities among agencies
Maximize volunteer labor and resources in monitoring, inspecting, and maintaining wildlife waters.	Development Branch Chief, Region Supervisors	January 1, 2004	Volunteer database, Annual Work Plan, Annual volunteer workshop, Established Volunteer Coordinator
Develop a Design Standards Manual that establishes site-specific design guidelines, material specifications, and construction methods.	Development Branch Chief	July 1, 2004	Completed Manual, consensus from Regions and stakeholders.

¹ Fledgling document to be further developed for each fiscal year.

² Field data (i.e., location, materials, condition, etc.) will be a long-term ongoing effort dependent on both internal and external volunteer resources.

*Bolding indicates lead responsibility.

DEPARTMENT ROLES AND RESPONSIBILITIES

Water Development Program

Field Operations – Regional Offices

1. Collect and archive field data on water levels, depletion rates, evaporation rates, and condition of water developments, maintenance needs, and wildlife use. Analyze data to determine dry dates and hauling needs. Transfer this information to appropriate Regional and Development Branch personnel. (See Section X, Water Monitoring).
2. Complete and submit proper documentation in a timely manner to initiate water hauling and catchment maintenance by Development Branch.
3. Perform minor maintenance at water catchments (e.g. float valve adjustment or replacement, painting components, repairing fence, sealing small leaks, mucking out drinkers).
4. Develop and maintain a prioritized list of Regional water developments requiring maintenance or redevelopment, or in some cases abandonment.
5. Participate in the proposed Water Development Annual Work Plan meeting. Develop and submit Regional section of Annual Work Plan, participate in statewide project prioritization process.
6. Identify a lead person(s) who will oversee coordination with volunteer organizations at the Regional level.
7. Determine biological need for all proposed new waters and waters requiring redevelopment
8. Verify location, assess function, condition, and biological importance of existing water catchments.
9. Communicate the Department plans regarding water developments with appropriate land management agencies, Habitat Partnership Committees (HPC's), stakeholders, and internal/external customers.
10. Serve as the primary contact for external customers with questions regarding site selection and redevelopment priority ranking.
11. Provide comment on land management planning documents affecting water development construction, maintenance, water hauling, monitoring, and coordination.
12. Solicit and submit Special Tag proposals for redevelopment of wildlife waters in accordance with the Annual Work Plan (See Section V, Planning).
13. Coordinate volunteers or contractors to haul water to dry or low catchments when Development Branch personnel are unable to do so. Water hauling data should be compiled and provided to the Development Branch for inclusion in the waters database.

14. To the extent possible, provide technical support and assist Development Branch in preparation of environmental compliance documents for development or redevelopment of wildlife waters.
15. Review technical specifications of proposed projects.
16. Assist in the supervision of volunteers and/or contractors working on wildlife waters in coordination with Development Branch.
17. Maintain, repair, or install identification signs at Department waters.

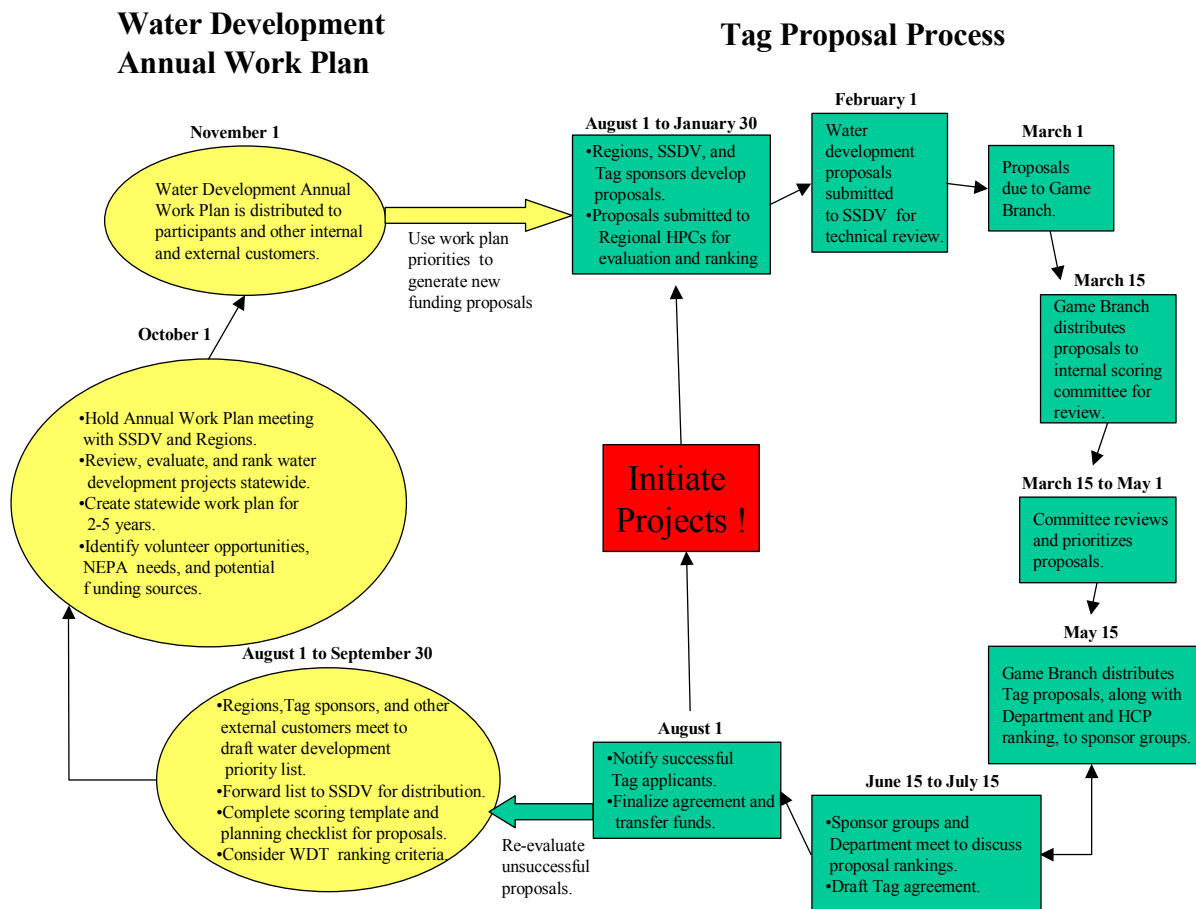
DEPARTMENT ROLES AND RESPONSIBILITIES

Water Development Program

Development Branch

1. Allocate federal, state, and other resources among prioritized wildlife water developments and other projects. Accurately track and manage project budgets to determine operational costs and achieve Annual Work Plan objectives.
2. Provide technical expertise on the siting, construction, and engineering of wildlife waters.
3. Maintain a current, comprehensive database on Department water catchments. Work toward the development of a standardized database incorporating waters managed by other government agencies.
4. In most cases, provide staff and materials necessary for construction, redevelopment, and maintenance of prioritized wildlife waters.
5. Take the lead in coordinating with volunteers and other agencies as necessary to facilitate the construction or redevelopment of wildlife waters.
6. Install signs on new, maintained, or redeveloped waters. Provide Regions with replacement signs as needed.
7. Serve as a secondary archive and repository for environmental compliance documents (Habitat Branch serving as the primary source). Serve as the primary source for historical maintenance and catchment feature information on Department waters.
8. Maintain a current, prioritized list of water developments requiring maintenance or redevelopment; communicate this information as needed to internal and external customers.
9. Assure timely completion and adequacy of environmental compliance documentation for development and redevelopment of wildlife waters.
10. Haul water to catchments as needed. Coordinate hauling by contractors and non-Department personnel as needed.
11. Supervise staff, volunteers, and contractors working on wildlife waters.
12. Solicit and submit funding proposals in coordination with the Regions to support the construction, redevelopment, and maintenance of wildlife waters that meet Annual Work Plan objectives and ensure projects meet Criteria for Success (Section III.1, Criteria for Success).
13. Complete mandatory reporting documents (internal/external) in a timely manner.

14. Contract vendors and complete procurement documents required to complete water developments.
15. Serve as a primary contact for information on water catchment construction techniques and scheduling. Direct biological, site selection or project priority questions to the appropriate work unit.
16. Organize the Annual Work Plan meeting (See Process Timeline Below). Participate in drafting of the statewide Work Plan. Provide technical assistance as requested at Regional level to develop project proposals.



Work Plan/Tag Fund Proposal Scheduling Flow Chart

DEPARTMENT ROLES AND RESPONSIBILITIES

Water Development Program

Game Branch/Research Branch/Nongame Branch/Habitat Branch

Game Branch

1. Provide species-specific expertise to ensure that new and redeveloped catchments meet clearly articulated biological objectives.
2. Assist regions with grant proposals for the development or redevelopment of wildlife waters benefiting game species.
3. Coordinate and administer the Special Tag Fund process, including budget tracking, providing budget information to external customers, and organizing stakeholder meetings and assuring water related project proposals are tiered to Annual Work Plan priorities.
4. Assist in developing and communicating the “biological vision” for wildlife waters to internal/external customers (Section VI, Customer Relationships).
5. Participate in drafting statewide Annual Work Plan for wildlife waters.
6. Serve as a primary contact for external customers with questions on water-related efforts related to game species.
7. Actively facilitate communication and cooperation between the Branches, Regional offices, and other external customers in the development of Special Tag Fund projects.

Research and Nongame Branches

1. Review the draft Annual Work Plan and provide expertise on biological issues pertaining to wildlife waters.
2. Conduct inventory, research, and monitoring projects that evaluate the biological basis of the Department’s wildlife water development program. Provide and support outreach opportunities resulting from these efforts.
3. Research Branch must take the lead in developing a “biological vision” for wildlife waters. Communicate that information to internal/external customers (Section VI, Customer Relationships).

Habitat Branch

1. Assist Regions and Development Branch with GIS needs and mapping of water catchments statewide.
2. Review, formalize, and track environmental compliance documents for water projects. Serve as the primary archive for these documents.
3. Monitor and create staff awareness of potential and actual T&E species issues related to water development activities.
4. Interact with other agencies when appropriate to facilitate long-term commitments to wildlife waters maintenance.
5. Consider and incorporate biological and operational issues related to wildlife waters when reviewing land management plans and participating in interagency planning efforts.

Tier 2 – Implementation Plan

The Team Report differs in that it takes a comprehensive look at all aspects of the water development program, clearly identifies current issues and challenges, and provides specific recommendations that are assimilated into this implementation plan. As a result, in addition to the Tier 1 Priority Recommendations, other critical recommendation sets (Tier 2) that enhance or spring from the implementation of the Tier 1 set have been generated in association with the following Report sections:

VI. RESOURCE ALLOCATION AND FUNDING

- State Trust Fund Grant Project FW20D
- Special Tag Fund
- Donations
- Outsourcing
- Role of Volunteers

VII. CUSTOMER RELATIONSHIPS

- Internal Customers
- External Customers

VIII. WATER DEVELOPMENT CONSTRUCTION

- Site Selection
- Design and Materials
- Catchment Identification
- On-Site Project Management
- Labor and Equipment
- Project Evaluation

IX. WATER DEVELOPMENT MAINTENANCE

X. WATER DEVELOPMENT MONITORING

- Monitoring Procedures
- Remote Sensing
- Database Needs

These recommendations have been presented in a matrix format, organized by work unit responsibility and categorized as either “Time Sensitive” implying a discrete target date or as “Administrative” reflecting business practice enhancements.

Tier 2 – Implementation Matrix

Development Branch

SECTION VI. - RESOURCE ALLOCATION AND FUNDING VI.1 STATE TRUST FUND GRANT PROJECT FW20D (Habitat Enhancement and Facilities Development, Operations and Maintenance)			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Be prepared to take advantage of any increase in PR appropriations, by developing a list of potential cash and in-kind matches.	Development Branch Chief	October 2003	
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Deploy Department and volunteer resources based upon Annual Work Plan (Section V - Planning).	Development Branch Chief	Ongoing	
SECTION VI. - RESOURCE ALLOCATION AND FUNDING SUBSECTION VI.2 - SPECIAL TAG FUND			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
The Special Tag Fund administration (i.e., proposal submissions, review and selection) for water related projects should be initiated at the completion of the Annual Work Plan process for that year.	Development Branch Chief	October 2003 and annually thereafter	WMGB FOD
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Water-related proposals must clearly be tiered to Annual Work Plan priorities through eligibility windows established to facilitate the submittal process.	Development Branch Chief	Ongoing	FOD
SECTION VI. - RESOURCE ALLOCATION AND FUNDING SUBSECTION VI.3 - DONATIONS			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Continually seek private donations by increasing outreach presentations, marketing	Development Branch Chief	Ongoing	FOD WMGM

specific projects, distributing brochures, and through other Department communications (e.g., newsletters, TV shows, magazine articles).			
Utilize new or existing appropriate PCA codes for donations.	Development Branch Chief	Ongoing	FOD WM
SECTION VI. - RESOURCE ALLOCATION AND FUNDING			
SUBSECTION VI.4 - OUTSOURCING			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Evaluate and discuss liability issues, cooperating agency restrictions, and landowner concerns regarding the use of outside vendors/contractors for water development construction, maintenance, and redevelopment.	Development Branch Chief	January 2004	SSSS FOD
SECTION VI. - RESOURCE ALLOCATION AND FUNDING			
SUBSECTION VI.5 ROLE OF VOLUNTEERS			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Create a prioritized list of potential volunteer projects for each Region/District to ensure the best use of volunteers.	Development Branch Chief	October 2003	FOD
Create a database to effectively match volunteer availability and capabilities with project needs.	Development Branch Chief	October 2003	FOD
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Determine the appropriate forums by which to most effectively communicate the Department's volunteer needs and opportunities to critical external customers (e.g. conservation organization board meetings, etc.)	Development Branch Chief	Ongoing	FOD
Clearly identify supervisory roles for Department sanctioned volunteer programs and projects.	Development Branch Chief	Ongoing	FOD
Provide training for volunteers on the proper operation of power tools, working outdoors, and general safety.	Development Branch Chief	Ongoing	FOD
On and off the project site, establish clear leadership assignments for volunteers and Department personnel.	Development Branch Chief	Ongoing	FOD
Ensure the proper tools, training, and staff are available to implement a project.	Development Branch Chief	Ongoing	FOD

Provide adequate direction, verbal or written, to Department personnel and volunteers participating in water development projects.	Development Branch Chief	Ongoing	FOD
SECTION VII. - CUSTOMER RELATIONSHIPS			
SUBSECTION VII.1 INTERNAL CUSTOMERS			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Develop an effective two-way communication process between Regions and Development Branch for achieving water hauling and maintenance needs and documenting their completion.	Development Branch Chief	January 2004	FOD
SECTION VII. - CUSTOMER RELATIONSHIPS			
VII.2 EXTERNAL CUSTOMERS			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Communicate through presentations, articles, video media, and other means the importance of water developments to Arizona's wildlife resources.	Development Branch Chief	Ongoing	FOD WMGM IE
Increase contact with and support by the public not affiliated with consumptive or non-consumptive wildlife groups.	Development Branch Chief	Ongoing	FOD WMGM IE
Research and identify current values of critical external customers and incorporate that knowledge into outreach efforts.	Development Branch Chief	Ongoing	FOD WM IE
SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION			
SUBSECTION VIII.1 SITE SELECTION			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Select sites that allow components to be easily camouflaged in the surrounding landscape.	Development Branch Chief	Ongoing	FOD
Consider equipment and crew access requirements for future construction, maintenance, and water hauling activities.	Development Branch Chief	Ongoing	FOD
Consider and evaluate alternate locations when redeveloping catchments. Do not install a sub-standard system if that is all that is feasible on an existing site.	Development Branch Chief	Ongoing	FOD

SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION SUBSECTION VIII.2 DESIGN AND MATERIALS			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Enhanced tinajas and adits may be considered when their use will provide a reliable source of water at an optimal location	Development Branch Chief	Ongoing	FOD
When redeveloping potholes, allow for natural flushing of accumulated organic matter during heavy runoff events and design to divert sediment around the pothole, and minimize/eliminate chances for animal entrapment.	Development Branch Chief	Ongoing	FOD
SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION SUBSECTION VIII.3 CATCHMENT IDENTIFICATION			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Install uniform signage (Photo Set d.5) on all wildlife waters owned or maintained by the Department. Cooperators, land management agencies, or sportsmen groups may install additional signage if appropriate.	Development Branch Chief	January 2004 and thereafter ongoing	FOD
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Monitor sign applications for durability and make adjustments as indicated.	Development Branch Chief	Ongoing	FOD
SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION SUBSECTION VIII.4 ON-SITE PROJECT MANAGEMENT			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
It is essential that the Department obtain buy-in from external stakeholders on project design, materials and implementation methods before work begins.	Development Branch Chief	Ongoing	FOD
Minimize deviations from specified plans and avoid “experimentation” during construction.	Development Branch Chief	Ongoing	FOD

SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION SUBSECTION VIII.5 LABOR AND EQUIPMENT			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Maximize use of equipment versus manual labor when feasible on projects being constructed by Department crews.	Development Branch Chief	Ongoing	FOD
Improve project coordination to schedule skilled equipment operators and well-trained volunteers.	Development Branch Chief	Ongoing	FOD
SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION SUBSECTION VIII.6 PROJECT EVALUATION			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Implement a system for evaluating water development performance. Evaluation criteria should reflect biological objectives specified in the Project Planning Checklist and Criteria for Success articulated in this report.	Development Branch Chief	January 2004	FOD
Develop a process to schedule inspections of recently redeveloped or newly constructed tanks. Ideally, the water developments would be inspected 30 days and 12 months after completion. This could be accomplished by willing volunteers.	Development Branch Chief	January 2004	FOD
SECTION IX. - WATER DEVELOPMENT MAINTENANCE			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Establish a routine, proactive maintenance program that will identify potential problems and affect remedies before bigger problems occur.	Development Branch Chief	October 2003 and thereafter ongoing	FOD
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Encourage public land management agencies, including state and regional level leadership, to allocate resources to the management of wildlife water developments.	Development Branch Chief	Ongoing	FOD WMGM DOHQ

Develop opportunities for maintenance and monitoring by volunteers (See Section V., Planning; and Section VI.4, Role of Volunteers).	Development Branch Chief	Ongoing	FOD
Construct and redevelop waters in a manner that minimizes long-term maintenance needs.	Development Branch Chief	Ongoing	FOD
Work more closely with other agencies in developing wildlife waters, and offer to review their plans and designs.	Development Branch Chief	Ongoing	FOD

Tier 2 – Implementation Matrix

Field Operations

SECTION VIII. - WATER DEVELOPMENT CONSTRUCTION			
SUBSECTION VIII.1 SITE SELECTION			
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Identify a clear biological need and measurable objectives for all new water development projects including local patterns of habitat use by target species and proximity/reliability of existing waters in project area.	Regional Supervisors	Ongoing	SSDV
SECTION IX. - WATER DEVELOPMENT MAINTENANCE			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Develop a water catchment logbook for each WM District, including historic information, system description and plumbing schematic, site maps, and other pertinent information.	Regional Supervisors	March 2004	SSDV
Ensure that new grants and collection agreements include specific verbiage regarding cooperator responsibilities for monitoring and maintenance.	Regional Supervisors	March 2004	SSDV
SECTION X. - WATER DEVELOPMENT MONITORING			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Regional personnel should communicate water hauling and maintenance requests (preferably in writing) to Development Branch at least one work period (two weeks) in advance of water depletion or catchment failure. Develop a protocol to handle emergencies.	Regional Supervisors	August 2003	SSDV
Wildlife Managers should maintain a file or database describing water location, access, configuration, and storage capacity of all waters in their District.	Regional Supervisors	January 2004	SSDV
Each Region should maintain a central database containing monitoring information collected by Wildlife Managers and other Department personnel.	Regional Supervisors	January 2004	SSDV

Each Region will implement a standardized monitoring protocol that collects needed data. Monitoring data collected should include water level, depletion rate, catchment condition, maintenance/repair needs, and signs of wildlife use.	Regional Supervisors	November 2004	SSDV
Administrative Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Regions and Development Branch should identify opportunities and needs for volunteer monitoring support (See Section VI.5, Role of Volunteers).	Regional Supervisors	Ongoing	SSDV
Use monitoring data to identify current or anticipated maintenance needs and estimate expected dry dates of catchments.	Regional Supervisors	Ongoing	SSDV

Tier 2 – Implementation Matrix

Game Branch

SECTION VI. - RESOURCE ALLOCATION AND FUNDING SUBSECTION VI.2 SPECIAL TAG FUND			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Create a checklist, similar to EA checklist used by the Habitat Branch, to ensure that proposal requirements are completed before project submittal acceptance. Game Branch should be responsible to ensure checklist compliance.	WMGB	March 2004	SSDV FOD WM
SECTION VII. - CUSTOMER RELATIONSHIPS SUBSECTION VII.1 INTERNAL CUSTOMERS			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
Game Branch should assign a staff person to participate in the Annual Work Plan process.	WMGB	Sept 2003	SSDV
SECTION VII. - CUSTOMER RELATIONSHIPS VII.2 EXTERNAL CUSTOMERS			
Time Sensitive Recommendations			
Task Description	Lead Responsibility	Target Date	Partners
The Special Tag Fund allocation process should be mapped and analyzed for improvements, focusing on financial reporting, defining roles, and establishing timelines and showing clear linkage to other work units.	WMGB	January 2004	FOD SSDV